

VGN-FS71B/FS51B/FS31B/FS21B/FS21/FS91PS/FS91PSY/FS91S  
 VGN-FS680/FS660P/FS660/FS640/FS675P/FS635B/FS625B/FS645P/FS670FG/FS650F/FS630F/FS615F/  
 FS640Q/FS655FP/FS640FP/FS610FP/FS620P/FS620/FS630/FS690P/FS690B/FS690/FS690BH  
 VGN-FS295XP/FS215Z/FS215M/FS295VP/FS215B/FS215E/FS215SR/ FS215MR/FS285M/FS285B/FS285E/FS215S/FS285H  
 VGN-FS28C/FS25C/FS28GP/FS28SP/FS28LP/FS28TP/ FS25GP/ FS25SP/ FS25LP/ FS25TP

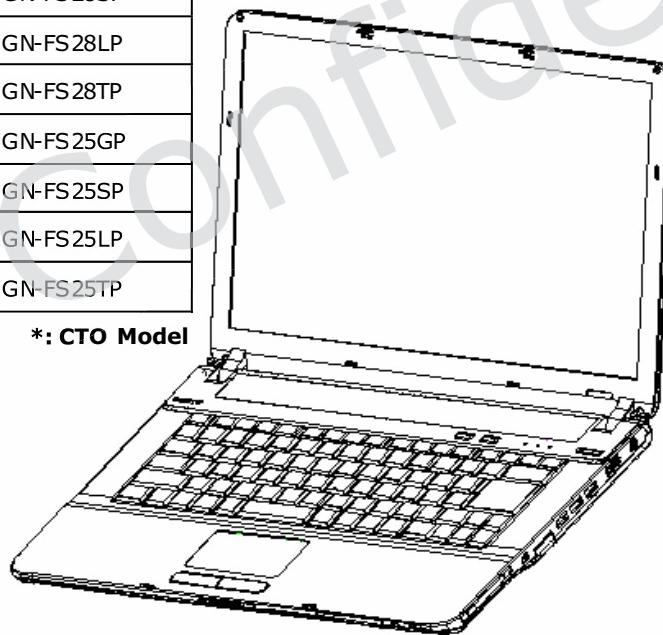
# SERVICE MANUAL

**Ver.4-2005K**

## Revision History

J	VGN-FS71B
	VGN-FS51B
	VGN-FS31B
	VGN-FS21B
	VGN-FS21
	VGN-FS91PS *
	VGN-FS91PSY *
	VGN-FS91S *
AM	VGN-FS680
	VGN-FS660P
	VGN-FS660
	VGN-FS640
	VGN-FS675P
	VGN-FS635B
AM	VGN-FS625B
	VGN-FS645P
	VGN-FS670FG
	VGN-FS650F
	VGN-FS630F
	VGN-FS615F
	VGN-FS640Q

AM	VGN-FS655FP	EU	VGN-FS215S
	VGN-FS640FP		VGN-FS285H
	VGN-FS610FP		VGN-FS28C
	VGN-FS620P		VGN-FS25C
	VGN-FS620		VGN-FS28GP
	VGN-FS630		VGN-FS28SP
	VGN-FS690P *		VGN-FS28LP
	VGN-FS690B *		VGN-FS28TP
	VGN-FS295XP		VGN-FS25GP
	VGN-FS215Z		VGN-FS25SP
EU	VGN-FS215M	AO	VGN-FS25LP
	VGN-FS295VP		VGN-FS25TP
	VGN-FS215B		*: CTO Model
	VGN-FS215E		
	VGN-FS215SR		
	VGN-FS215MR		
	VGN-FS285M		
	VGN-FS285B		
	VGN-FS285E		
	VGN-FS28C		



△[COR]



Memory Stick™  
S400



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**PERSONAL COMPUTER**  
**SONY®**

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### **Caution Markings for Lithium/Ion Battery**

The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

**CAUTION:** Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the Manufacturer'

**CAUTION:** The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C(212°F) or incinerate. Dispose of used battery promptly. Keep away from children..

**CAUTION:** Changing the back up battery.

- Overcharging, short circuiting, reverse charging, multilati on or incineration of the cells must be avoided to prevent one or more of the following occurrences; release of toxic materials, release of hydrogen and/or oxygen gas, rise in surface temperature.
- If a cell has leaked or vented, it should be replaced immediately while avoiding to touch it without any protection..

## **Service and Inspection Precautions**

### **\*1.Obey precautionary markings and instructions**

- \* Labels and stamps on the cabinet, chassis, and components are as requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents..

### **\*2.Use designated parts only**

- \*The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages.
- \* Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the mark, \*which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions be extra sure to use only the designated components.

### **\*3. Always follow the original design when**

#### **\*mounting parts and routing wires**

- \*
- \*The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it

away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

### **4. Inspect after completing service**

After servicing, inspect to make Sure that all screws, components, And wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

### **5. When replacing chip components..**

Never reuse components. Also remember that the negative side of tantalum capacitors is easily Damaged by heat.,

### **6. When handing flexible print boards..**

- The temperature of the soldering-Iron tip should be about 270°C.
- Do not apply the tip more than three times to the same pattern.
- Handle patterns with care; never apply force

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

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# CHAPTER1. SPECIFICATIONS

## 1-1. Specifications

	J					
	VGN-FS71B	VGN-FS51B	VGN-FS31B	VGN-FS21B	VGN-FS21	VGN-FS91PSY/F91PSY/F91S
CPU	Pentium-M 750(Do1.86)	Pentium-M 740(Do1.73)	Celeron-M 370(Do1.5)	Celeron-M 360J(Do1.4)	Celeron-M 360J(Do1.4)	*1)
Graphic	NV44M	915GM	915GM	915GM	915GM	*2)
LCD	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)
HDD	100GB	100GB	80GB	60GB	60GB	*3)
MEMORY(Slot1)	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	*4)
MEMORY(Slot2)	256MB DDR333	256MB DDR333	256MB DDR333	-	-	
QUANTITY(STANDARD/MAX)	512MB/2GB	512MB/2GB	512MB/2GB	256MB/2GB	256MB/2GB	
OPT-DRIVE	Super Multi Drive DL	Super Multi Drive DL	Super Multi Drive DL/Combo /DVD-ROM			
AC adaptor	AC19V11	AC19V11	AC19V11	AC19V11	AC19V11	AC19V10
Battery	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA
Wireless LAN	O	O	O	O	O	O/X
Memory Card Adapter	O	O	O	O	O	O
USB FLOPPY DISK DRIVE	X	O	O	X	X	X
OS	XP Home	XP Home	XP Home	XP Home	XP Home	XP Home/XP Pro

\*1)Celeron-M 360J,Celeron-M 370,Pentium-M 740,Pentium-M 770 \*2)NV44M,915GM \*3)100GB,80GB,60GB,40GB \*4)512MB\*2,256MB\*2,256MB\*1

\*5)Celeron-M 360,Pentium-M 730,Pentium-M 740,Pentium-M 750,Pentium-M 760,Pentium-M 770 \*6)NV44M,915GM \*7)100GB,80GB,60GB,40GB,30GB

\*8)512MB\*1,512MB\*2,256MB\*1,256MB\*2 \*9)Combo,DVD+/-RW DL,DVD-ROM \*10) 802.11b/g, 802.11a/b/g

	AM																							
	VGN-FS680	VGN-FS660P	VGN-FS660	VGN-FS640	VGN-FS675P	VGN-FS635B	VGN-FS625B	VGN-FS645P	VGN-FS670FG	VGN-FS650F	VGN-FS630F	VGN-FS615F	VGN-FS640Q	VGN-FS655FP	VGN-FS640FP	VGN-FS610FP	VGN-FS620P	VGN-FS620	VGN-FS630	VGN-FS630P	VGN-FS630Y	VGN-FS630S		
CPU	Pentium-M 750(Do1.86)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Pentium-M 730(Do1.6)	Pentium-M 750(Do1.6)	Pentium-M 730(Do1.6)	Pentium-M 730(Do1.6)	Pentium-M 750(Do1.6)	Pentium-M 740(Do1.73)	Celeron-M 360J(Do1.4)	Celeron-M 360J(Do1.4)	Pentium-M 730(Do1.6)	Pentium-M 740(Do1.6)	Pentium-M 730(Do1.6)	Pentium-M 740(Do1.6)	Pentium-M 730(Do1.6)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.6)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	*5)	
Graphic	NV44M	NV44M	NV44M	915GM	NV44M	915GM	NV44M	915GM	NV44M	915GM	915GM	915GM	*6)											
LCD	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (High Brightness)																				
HDD	100GB	80GB	80GB	80GB	100GB	60GB	40GB	80GB	80GB	60GB	40GB	40GB	80GB	80GB	60GB	40GB	80GB	80GB	60GB	40GB	80GB	80GB	80GB	*7)
MEMORY(Slot1)	512MB DDR333	512MB DDR333	512MB DDR333	512MB DDR333	512MB DDR333	256MB DDR333	256MB DDR333																	
MEMORY(Slot2)	512MB DDR333	512MB DDR333	512MB DDR333	512MB DDR333	512MB DDR333	256MB DDR333	256MB DDR333	*8)																
QUANTITY(STANDARD/MAX)	1GBB/2GB	1MB/2GB	1MB/2GB	1MB/2GB	1MB/2GB	512MB/2GB	256MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB													
OPT-DRIVE	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	Combo	Combo	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	Combo	DVD+/-RW DL	DVD+/-RW DL	Combo	Combo	Combo	Combo	Combo	Combo	Combo	Combo	*9)
AC adaptor	AC19V9	AC19V11	AC19V11	AC19V11	AC19V11	AC19V11	AC19V11	AC19V9	AC19V10	AC19V10	AC19V10	AC19V10	AC19V10	AC19V10	AC19V10	AC19V10	AC19V11	AC19V11	AC19V11	AC19V11	AC19V11	AC19V11	AC19V11	AC19V10 (w/o PR)/AC19V9 (W/ PR)
Battery	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	*10)
Wireless LAN	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	X	X	
Memory Card Adapter	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
USB FLOPPY DISK DRIVE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
OS	XP Home	XP Pro	XP Home	XP Home	XP Pro	XP Pro	XP Pro	XP Pro	XP Home	XP Home	XP Home	XP Home	XP Home	XP Home	XP Home	XP Pro	XP Pro	XP Pro	XP Home	XP Home	XP Home	XP Home	XP Pro/XP Home	

\* The model that is accompanied by asterisk(\*) is the CTO model.

For the equipment configuration, refer to the CTO Information.

\* The trademarks or registered trademarks of above ,refer to page2.

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EU													
	VGN-FS295XP	VGN-FS215Z	VGN-FS215M	VGN-FS295VP	VGN-FS215B	VGN-FS215E	VGN-FS215SR	VGN-FS215MR	VGN-FS285M	VGN-FS285B	VGN-FS285E	VGN-FS215S	VGN-FS285H
CPU	Pentium-M 750(Do1.86)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Celeron-M 370(Do1.5)	Pentium-M 750(Do1.86)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Celeron-M 370(Do1.5)	Pentium-M 750(Do1.86)	Pentium-M 740(Do1.73)
Graphic	NV44M	NV44M	NV44M	NV44M	915GM	NV44M	NV44M	NV44M	915GM	NV44M	NV44M	NV44M	NV44M
LCD	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)
HDD	100GB	100GB	80GB	80GB	60GB	60GB	100GB	80GB	80GB	80GB	100GB	80GB	80GB
MEMORY(Slot1)	512MB DDR333	256MB DDR333	256MB DDR333	512MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	512MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333
MEMORY(Slot2)	-	256MB DDR333	256MB DDR333	-	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	512MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333
QUANTITY(STANDARD/MAX)	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB
OPT-DRIVE	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL
AC adaptor	AC19V11	AC19V9	AC19V11	AC19V11	AC19V11	AC19V11	AC19V12	AC19V12	AC19V12	AC19V11	AC19V11	AC19V11	AC19V11
Battery	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA
Wireless LAN	O	O	O	O	O	O	O	O	O	O	O	O	O
Memory Card Adapter	X	X	X	X	X	X	X	X	X	X	X	X	X
USB FLOPPY DISK DRIVE	X	X	X	X	X	X	X	X	X	X	X	X	X
OS	XP Pro	XP Home	XP Home	XP Pro	XP Home	XP Home	XP Home	XP Home	XP Home	XP Home	XP Home	XP Home	XP Home

AO										
	VGN-FS28C	VGN-FS25C	VGN-FS28GP	VGN-FS28SP	VGN-FS28LP	VGN-FS28TP	VGN-FS25GP	VGN-FS25SP	VGN-FS25LP	VGN-FS25TP
CPU	Pentium-M 740(Do1.73)	Celeron-M 360J(Do1.4)	Pentium-M 760(Do2.0)	<-	<-	<-	Pentium-M 740(Do1.73)	<-	<-	<-
Graphic	NV44M	915GM	NV44M	<-	<-	<-	NV44M	<-	<-	<-
LCD	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)	<-	<-	<-	15.4"WXGA (High Brightness)	<-	<-	<-
HDD	40GB	40GB	80GB	<-	<-	<-	60GB	<-	<-	<-
MEMORY(Slot1)	512MB DDR333	256MB DDR333	512MB DDR333	<-	<-	<-	512MB DDR333	<-	<-	<-
MEMORY(Slot2)	-	-	-	<-	<-	<-	-	<-	<-	<-
QUANTITY(STANDARD/MAX)	512MB/2GB	256MB/2GB	512MB/2GB	<-	<-	<-	512MB/2GB	<-	<-	<-
OPT-DRIVE	Combo	Combo	DVD+/-RW DL	<-	<-	<-	DVD+/-RW DL	<-	<-	<-
AC adaptor	AC19V10	AC19V10	AC19V10	<-	<-	<-	AC19V10	<-	<-	<-
Battery	BP2SA	BP2SA	BP2SA	<-	<-	<-	BP2SA	<-	<-	<-
Wireless LAN	O	O	O	<-	<-	<-	O	<-	<-	<-
Memory Card Adapter	X	X	X	<-	<-	<-	X	<-	<-	<-
USB FLOPPY DISK DRIVE	X	X	X	<-	<-	<-	X	<-	<-	<-
OS	XP Home	XP Home	XP Pro	<-	<-	<-	XP Pro	<-	<-	<-

- The model that is accompanied by asterisk(\*) is the CTO model.
- For the equipment configuration, refer to the CTO Information.
- The trademarks or registered trademarks of above ,refer to page2.

## 1-2.CTO Information

Model name:VGN-FS91PS  
Model number:PCG-7A1N (w/ W-LAN), PCG-7A2N(w/o W-LAN)

OS:WinXP Pro

CPU	Pentium-M 770 6-707-261-01 CPU PM 2.13	Pentium-M 740 6-707-238-01 CPU PM 1.73	Pentium-M 730 6-707-268-01 CPU CEL-M 1.5	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4		
HDD	100GB A-1127-961-A ASSY HDD 100GB(TO)	80GB A-1108-905-A ASSY HDD 80GB(TO)	60GB A-1108-908-A ASSY HDD 60GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(H)		
LCD	15.4WXGA+ClearBlack A-1133-650-A ASSY LCD (HC-SXGA+WLAN)(S)(WHITE)	15.4WXGA+ClearBlack A-1133-651-A ASSY LCD (HC-XGA+WLAN)(S)(WHITE)	15.4WXGA+ClearBlack A-1127-878-A ASSY LCD (HC-SXGA+WLAN)(S)(GRAY)	15.4WXGA+ClearBlack A-1127-879-A ASSY LCD (HC-WXGA+WLAN)(S)(GRAY)		
Graphics	NV44M	915GM				
Memory	256MB*1 6-707-229-01 IC HY54D432020HDL-6-C	256MB*2 6-707-229-01 IC HY54D432020HDL-6-C	512MB*2 6-705-098-01 IC HY54D440202HBDL-6-C			
Opt.Drive	Super Multi +/-DL A-1127-944-A ASSY ODD PANA(SM+DL)(W)	Super Multi +/-DL A-1127-947-A ASSY ODD PANA(SM+DL)(B)	Combo A-1127-956-A ASSY ODD QSI(SBW 243)(W)	Combo A-1127-957-A ASSY ODD QSI(SBW 243)(B)	DVD-ROM A-1127-958-A ASSY ODD Toshiba(C2732)(W)	DVD-ROM A-1127-959-A ASSY ODD Toshiba(C2732)(B)
W-LAN	802.11b(g)(Intel) 1-761-864-01 WIRELESS LAN CARD					
Office	2003 Professional	2003 Personal				
Other Option	Memory card adapter 1-478-615-11 MEMORY CARD ADAPTER					
CHASSIS COLOR	White	Gray				

Model name:VGN-FS91PSY

Model number:PCG-7A1N (w/ W-LAN), PCG-7A2N(w/o W-LAN)

OS:WinXP Pro

CPU	Pentium-M 770 6-707-261-01 CPU PM 2.13	Pentium-M 740 6-707-238-01 CPU PM 1.73	Pentium-M 730 6-707-268-01 CPU CEL-M 1.5	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4		
HDD	100GB A-1127-961-A ASSY HDD 100GB(TO)	80GB A-1108-905-A ASSY HDD 80GB(TO)	60GB A-1108-908-A ASSY HDD 60GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(H)		
LCD	15.4WXGA+ClearBlack A-1127-878-A ASSY LCD (HC-SXGA+WLAN)(S)(GRAY)	15.4WXGA+ClearBlack A-1127-879-A ASSY LCD (HC-WXGA+WLAN)(S)(GRAY)				
Graphics	915GM					
Memory	256MB*1 6-707-229-01 IC HY54D432020HDL-6-C	256MB*2 6-707-229-01 IC HY54D432020HDL-6-C	512MB*2 6-705-098-01 IC HY54D440202HBDL-6-C			
Opt.Drive	Super Multi +/-DL A-1127-947-A ASSY ODD PANA(SM+DL)(B)	Combo A-1127-957-A ASSY ODD QSI(SBW 243)(B)	DVD-ROM A-1127-958-A ASSY ODD Toshiba(C2732)(B)			
W-LAN	802.11b(g)(Intel) 1-761-864-01 WIRELESS LAN CARD					
Office	2003 Professional	2003 Personal				
Other Option	Memory card adapter 1-478-615-11 MEMORY CARD ADAPTER					
CHASSIS COLOR	Gray					

Model name:VGN-FS91S

Model number:PCG-7A1N (w/ W-LAN), PCG-7A2N(w/o W-LAN)

OS:WinXP Home

CPU	Pentium-M 770 6-707-261-01 CPU PM 2.13	Pentium-M 740 6-707-238-01 CPU PM 1.73	Pentium-M 730 6-707-268-01 CPU CEL-M 1.5	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4		
HDD	100GB A-1127-961-A ASSY HDD 100GB(TO)	80GB A-1108-905-A ASSY HDD 80GB(TO)	60GB A-1108-908-A ASSY HDD 60GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(H)		
LCD	15.4WXGA+ClearBlack A-1133-650-A ASSY LCD (HC-SXGA+WLAN)(S)(WHITE)	15.4WXGA+ClearBlack A-1133-651-A ASSY LCD (HC-XGA+WLAN)(S)(WHITE)	15.4WXGA+ClearBlack A-1127-878-A ASSY LCD (HC-SXGA+WLAN)(S)(GRAY)	15.4WXGA+ClearBlack A-1127-879-A ASSY LCD (HC-WXGA+WLAN)(S)(GRAY)		
Graphics	NV44M	915GM				
Memory	256MB*1 6-707-229-01 IC HY54D432020HDL-6-C	256MB*2 6-707-229-01 IC HY54D432020HDL-6-C	512MB*2 6-705-098-01 IC HY54D440202HBDL-6-C			
Opt.Drive	Super Multi +/-DL A-1127-944-A ASSY ODD PANA(SM+DL)(W)	Super Multi +/-DL A-1127-947-A ASSY ODD PANA(SM+DL)(B)	Combo A-1127-956-A ASSY ODD QSI(SBW 243)(W)	Combo A-1127-957-A ASSY ODD QSI(SBW 243)(B)	DVD-ROM A-1127-958-A ASSY ODD Toshiba(C2732)(W)	DVD-ROM A-1127-959-A ASSY ODD Toshiba(C2732)(B)
W-LAN	802.11b(g)(Intel) 1-761-864-01 WIRELESS LAN CARD					
Office	2003 Professional	2003 Personal				
Other Option	Memory card adapter 1-478-615-11 MEMORY CARD ADAPTER					
CHASSIS COLOR	White	Gray				

Model name: VGN-FS690P  
 Model number: PCG-7A1L (802.11a/b/g), PCG-7A2L (802.11b/g)  
 OS: WinXP Pro

CPU	Pentium-M 770 6-707-261-01 CPU PM 2.13	Pentium-M 760 6-707-260-01 CPU PM2.0	Pentium-M 750 6-707-259-01 CPU PM 1.86	Pentium-M 740 6-707-258-01 CPU PM 1.73	Pentium-M 730 6-707-252-01 CPU PM 1.6	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4
HDD	190GB A-1127-961-A ASSY HDD 190GB(TO)	90GB A-1108-905-A ASSY HDD 90GB(TO)	90GB A-1108-908-A ASSY HDD 90GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(HI)	90GB A-1108-911-A ASSY HDD 30GB(HI)	
LCD	15.4WXGA/High Brightness A-1133-449-A ASSY LCD (BR-WLAN)(Q)(S)(WHITE)					
Graphics	NV44M	P150M				
Memory	256MB*1 6-707-029-01 IC HY546D4202HDL-6-C	256MB*2 6-707-029-01 IC HY546D4202HDL-6-C	512MB*1 6-705-096-01 IC HY546D4202HDL-6-C	512MB*2 6-705-096-01 IC HY546D4202HDL-6-C		
Opt.Drive	DVD-RW A-1127-951-A ASSY ODD SONY(DVD+DL)(W)	Combo A-1127-956-A ASSY ODD QSS(SBW 243)(W)	DVD-ROM A-1127-958-A ASSY ODD Toshiba(C2732)(W)			
W-LAN	802.11b(g)(Intel) 1-761-654-51 WIRELESS LAN CARD	802.11b(g) 1-781-095-51 WIRELESS LAN CARD				
CHASSIS COLOR	White					

Model name: VGN-FS690  
 Model number: PCG-7A1L (802.11a/b/g), PCG-7A2L (802.11b/g)  
 OS: WinXP Home

CPU	Pentium-M 770 6-707-261-01 CPU PM 2.13	Pentium-M 760 6-707-260-01 CPU PM2.0	Pentium-M 750 6-707-259-01 CPU PM 1.86	Pentium-M 740 6-707-258-01 CPU PM 1.73	Pentium-M 730 6-707-252-01 CPU PM 1.6	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4
HDD	190GB A-1127-961-A ASSY HDD 190GB(TO)	90GB A-1108-905-A ASSY HDD 90GB(TO)	90GB A-1108-908-A ASSY HDD 90GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(HI)	90GB A-1108-911-A ASSY HDD 30GB(HI)	
LCD	15.4WXGA/High Brightness A-1133-449-A ASSY LCD (BR-WLAN)(Q)(S)(WHITE)					
Graphics	NV44M	P150M				
Memory	256MB*1 6-707-029-01 IC HY546D4202HDL-6-C	256MB*2 6-707-029-01 IC HY546D4202HDL-6-C	512MB*1 6-705-096-01 IC HY546D4202HDL-6-C	512MB*2 6-705-096-01 IC HY546D4202HDL-6-C		
Opt.Drive	DVD-RW A-1127-951-A ASSY ODD SONY(DVD+DL)(W)	Combo A-1127-956-A ASSY ODD QSS(SBW 243)(W)	DVD-ROM A-1127-958-A ASSY ODD Toshiba(C2732)(W)			
W-LAN	802.11b(g)(Intel) 1-761-654-51 WIRELESS LAN CARD	802.11b(g) 1-781-095-51 WIRELESS LAN CARD				
CHASSIS COLOR	White					

Model name: VGN-FS690B  
 Model number: PCG-7A1L (802.11a/b/g), PCG-7A2L (802.11b/g)  
 OS: WinXP Pro

CPU	Pentium-M 770 6-707-261-01 CPU PM 2.13	Pentium-M 760 6-707-260-01 CPU PM2.0	Pentium-M 750 6-707-259-01 CPU PM 1.86	Pentium-M 740 6-707-258-01 CPU PM 1.73	Pentium-M 730 6-707-252-01 CPU PM 1.6	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4
HDD	190GB A-1127-961-A ASSY HDD 190GB(TO)	90GB A-1108-905-A ASSY HDD 90GB(TO)	90GB A-1108-908-A ASSY HDD 90GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(HI)	90GB A-1108-911-A ASSY HDD 30GB(HI)	
LCD	15.4WXGA/High Brightness A-1133-449-A ASSY LCD (BR-WLAN)(Q)(S)(WHITE)					
Graphics	NV44M	P150M				
Memory	256MB*1 6-707-029-01 IC HY546D4202HDL-6-C	256MB*2 6-707-029-01 IC HY546D4202HDL-6-C	512MB*1 6-705-096-01 IC HY546D4202HDL-6-C	512MB*2 6-705-096-01 IC HY546D4202HDL-6-C		
Opt.Drive	DVD-RW A-1127-951-A ASSY ODD SONY(DVD+DL)(W)	Combo A-1127-956-A ASSY ODD QSS(SBW 243)(W)	DVD-ROM A-1127-958-A ASSY ODD Toshiba(C2732)(W)			
W-LAN	802.11b(g)(Intel) 1-761-654-51 WIRELESS LAN CARD	802.11b(g) 1-781-095-51 WIRELESS LAN CARD				
CHASSIS COLOR	White					

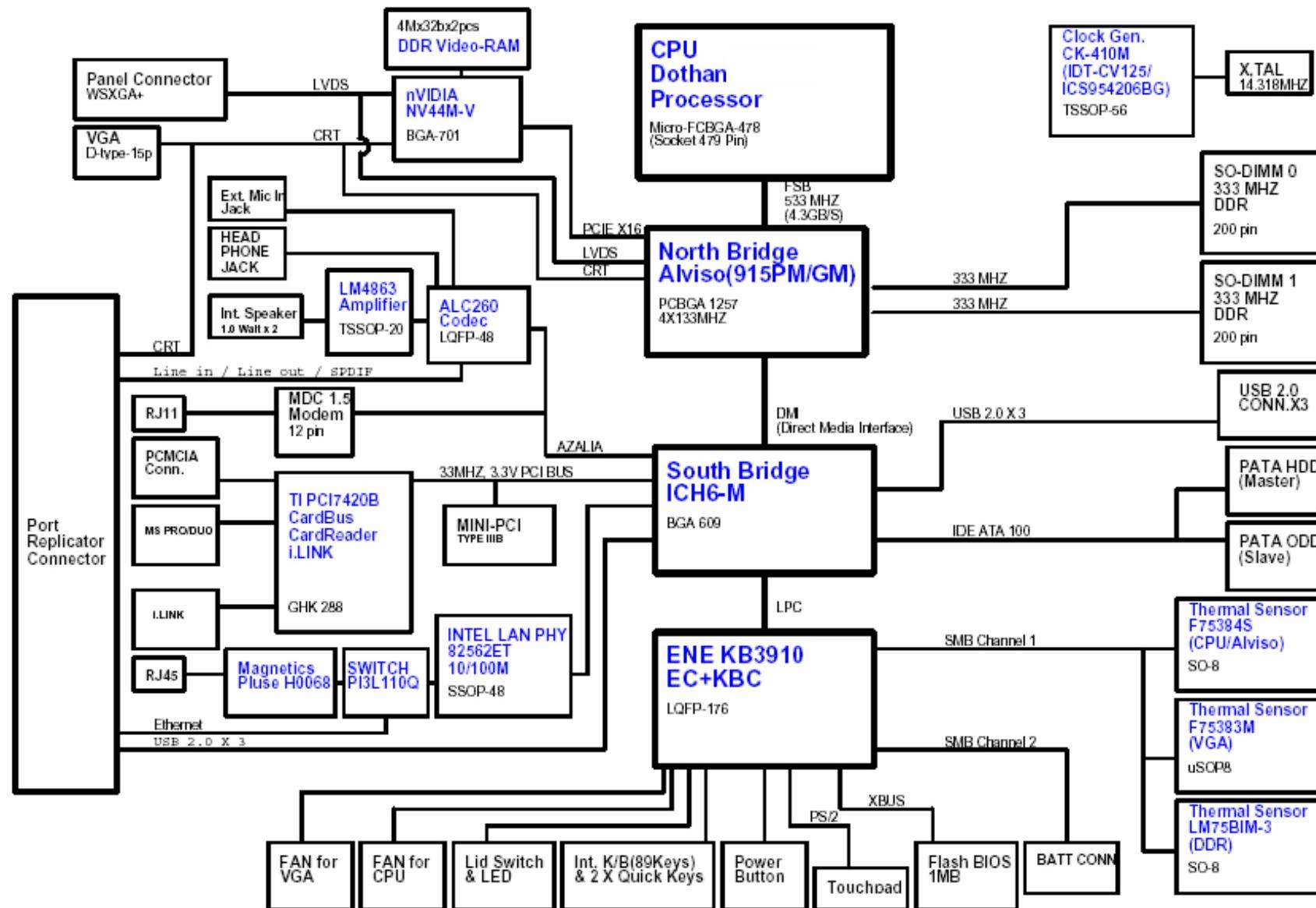
△(MA)  
 Model name: VGN-FS690B  
 Model number: PCG-7A1L (802.11a/b/g), PCG-7A2L (802.11b/g)  
 OS: WinXP Home

CPU	Pentium-M 770 6-707-261-01 CPU PM 2.13	Pentium-M 760 6-707-260-01 CPU PM2.0	Pentium-M 750 6-707-259-01 CPU PM 1.86	Pentium-M 740 6-707-258-01 CPU PM 1.73	Pentium-M 730 6-707-252-01 CPU PM 1.6	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4
HDD	190GB A-1127-961-A ASSY HDD 190GB(TO)	90GB A-1108-905-A ASSY HDD 90GB(TO)	90GB A-1108-908-A ASSY HDD 90GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(HI)	90GB A-1108-911-A ASSY HDD 30GB(HI)	
LCD	15.4WXGA/High Brightness A-1133-449-A ASSY LCD (BR-WLAN)(Q)(S)(WHITE)					
Graphics	NV44M	P150M				
Memory	256MB*1 6-707-029-01 IC HY546D4202HDL-6-C	256MB*2 6-707-029-01 IC HY546D4202HDL-6-C	512MB*1 6-705-096-01 IC HY546D4202HDL-6-C	512MB*2 6-705-096-01 IC HY546D4202HDL-6-C		
Opt.Drive	DVD-RW A-1127-951-A ASSY ODD SONY(DVD+DL)(W)	Combo A-1127-956-A ASSY ODD QSS(SBW 243)(W)	DVD-ROM A-1127-958-A ASSY ODD Toshiba(C2732)(W)			
W-LAN	802.11b(g)(Intel) 1-761-654-51 WIRELESS LAN CARD	802.11b(g) 1-781-095-51 WIRELESS LAN CARD				
CHASSIS COLOR	White					

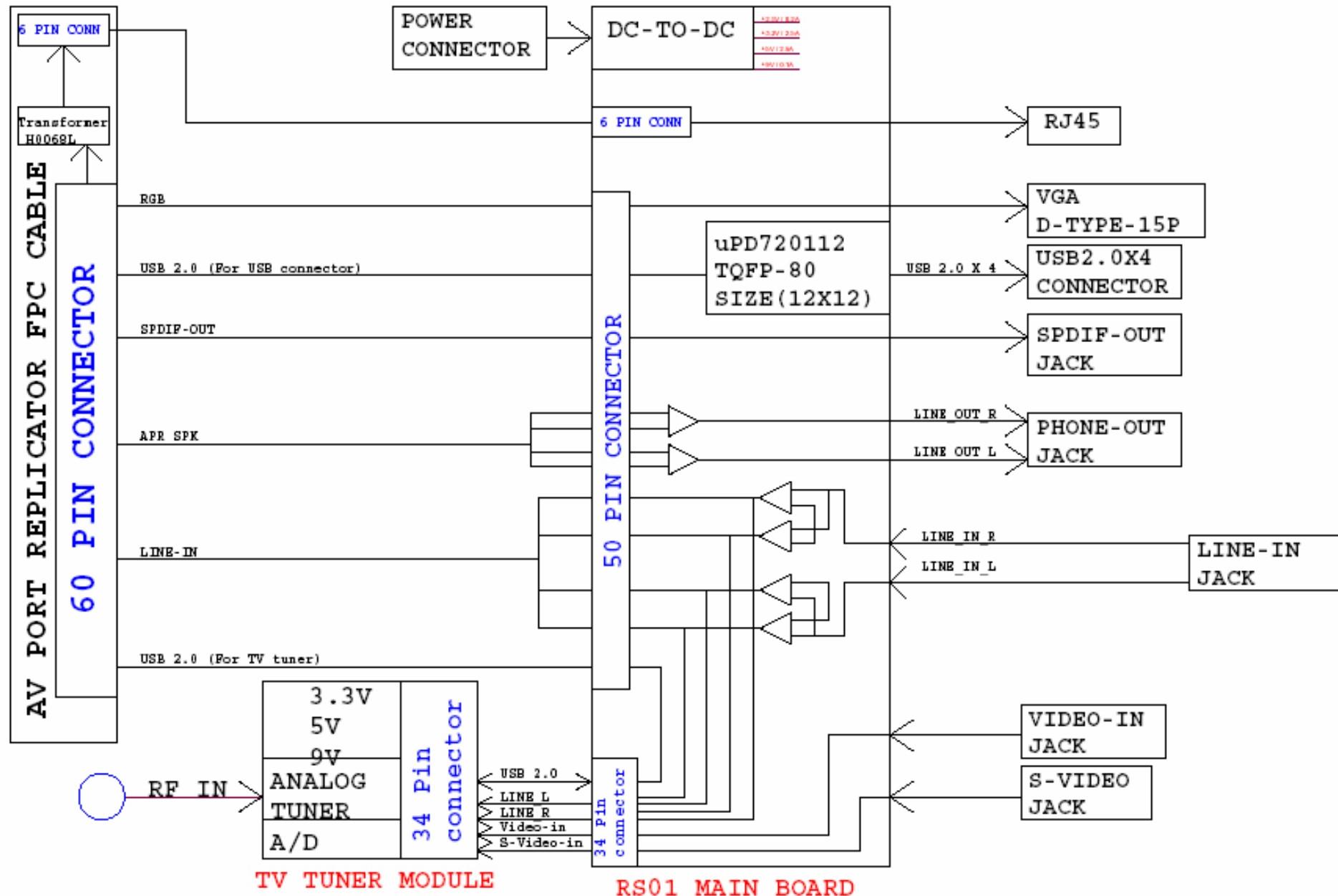
# CHAPTER2.

## BLOCK DIAGRAM

### 2-1.VGN-FS series



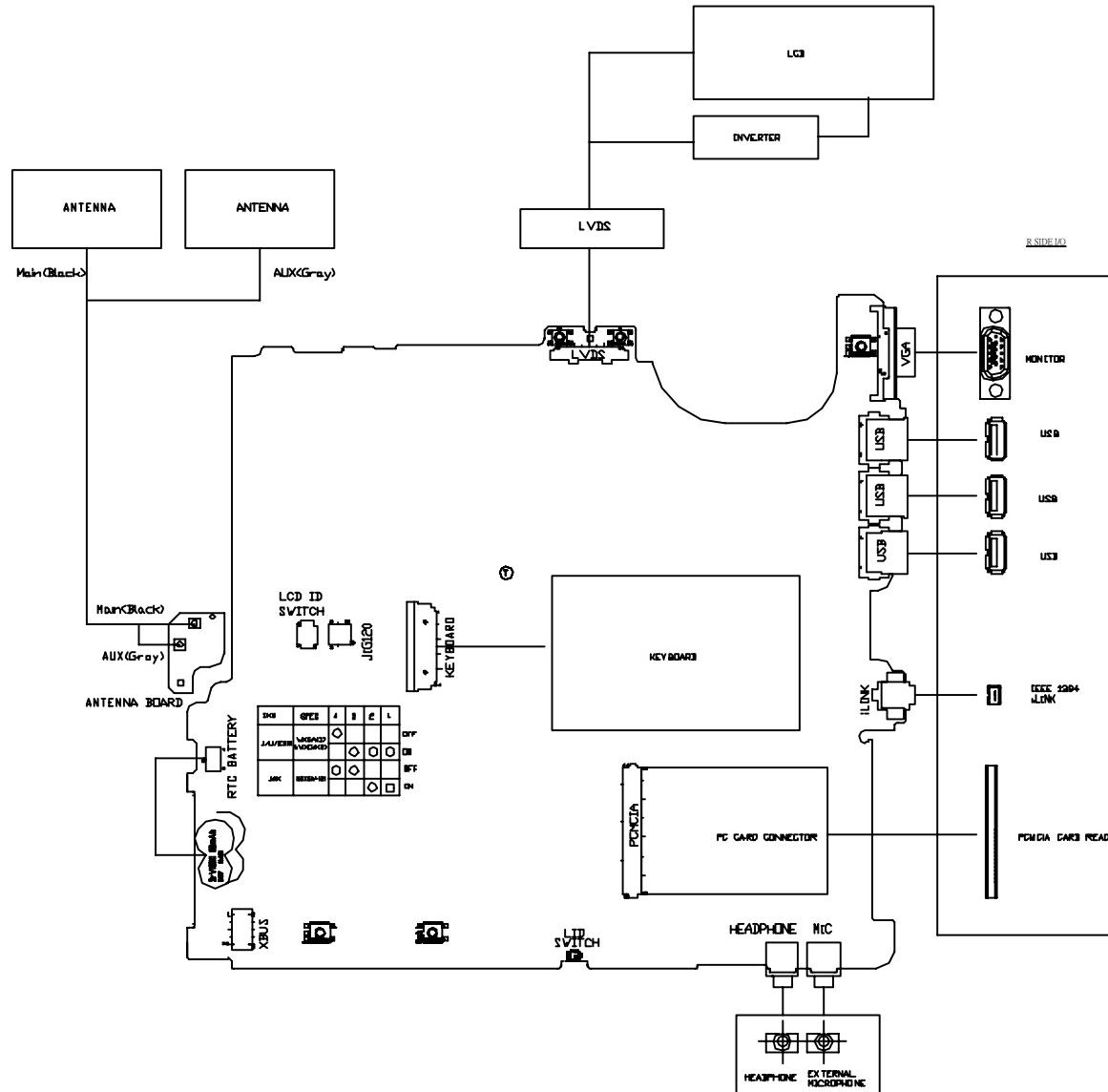
## 2-2. Port Replicator (VGP-PRFS10V)



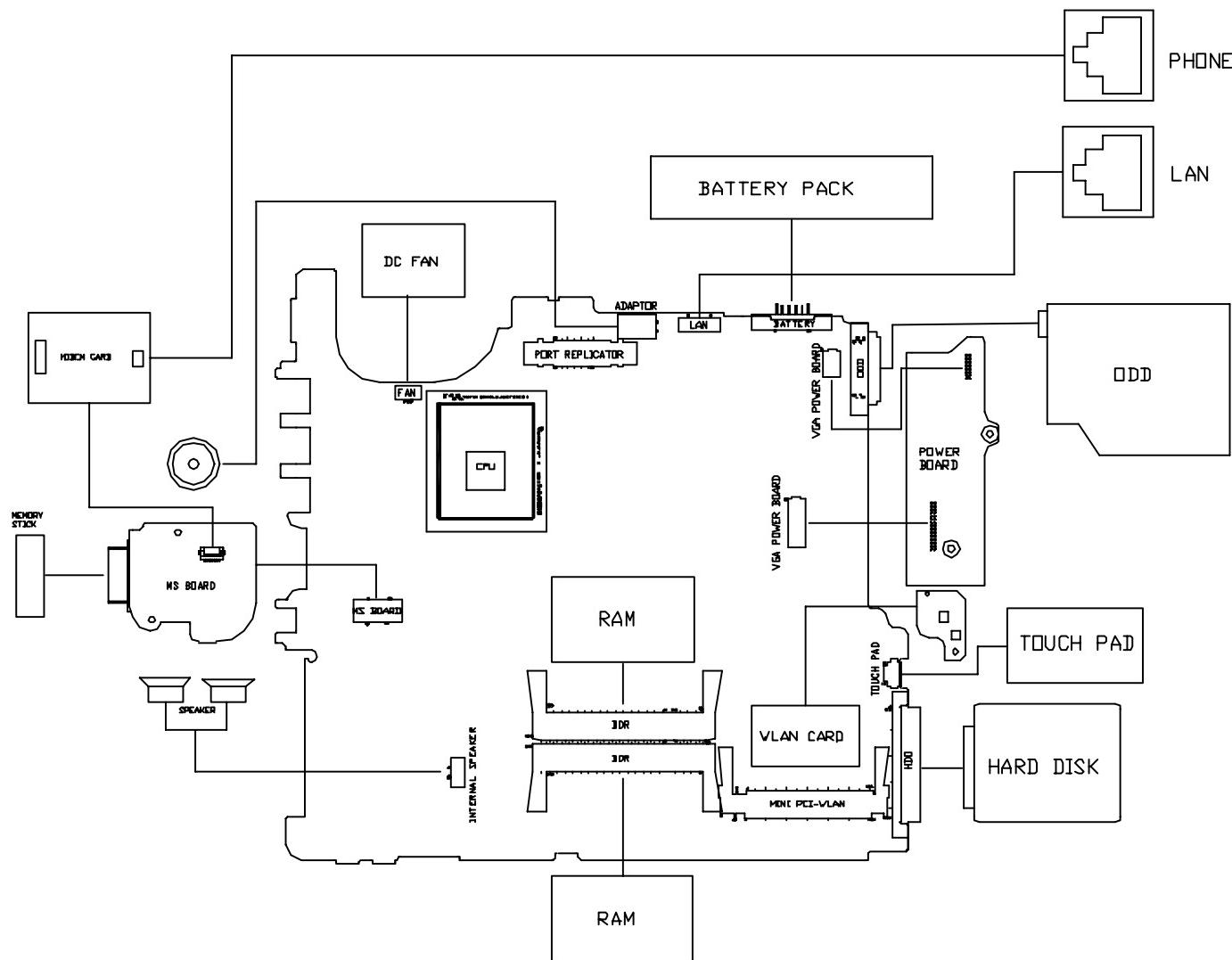
# CHAPTER3.

## FRAME HARNESS DIAGRAM

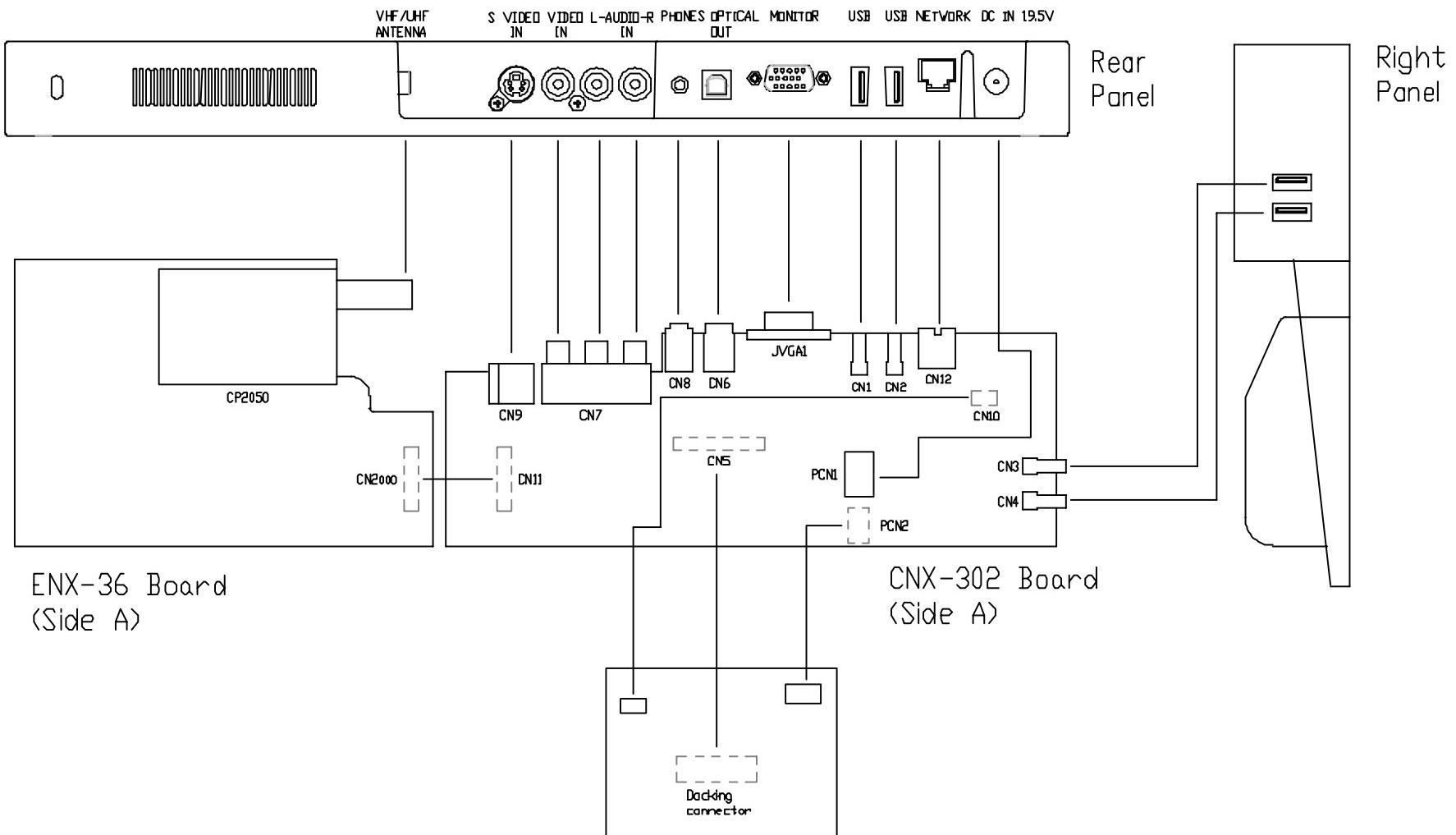
### 3-1 VGN-FS Series (TOP)



### 3-1 VGN-FS Series (BOTTOM)



## 3-2 Port Replicator (VGP-PRFS10V)



# CHAPTER 4

## EXPLODED VIEWS AND PARTS LIST

The parts id compiled by blocks of a Palmrest and bottom etc.

The sections of the parts list are different depending on the model.

Please refer to list of contents shown in the below.

### Section Page

#### Screws

S-1.Screws..... 4-2

#### Palmrest

P-1.Palmrest..... 4-3

#### Main Board

M-1.Main Board..... 4-5

#### BOTTOM

B-1.BOTTOM..... 4-7

#### CABINET KB COVER

C-1.CABINET KB COVER..... 4-9

#### LCD

L-1.LCD..... 4-10

#### ODD

D-1.ODD ..... 4-13

#### HDD

H-1.HDD..... 4-14

#### ACCESSORIES

A-1.ACCESSORIES..... 4-15

A-2.ACCESSORIES..... 4-18

#### SUBSTITUTION PARTS LIST

T-1.SUBSTITUTION PARTS LIST..... 4-20

#### DIP Switch

4-21

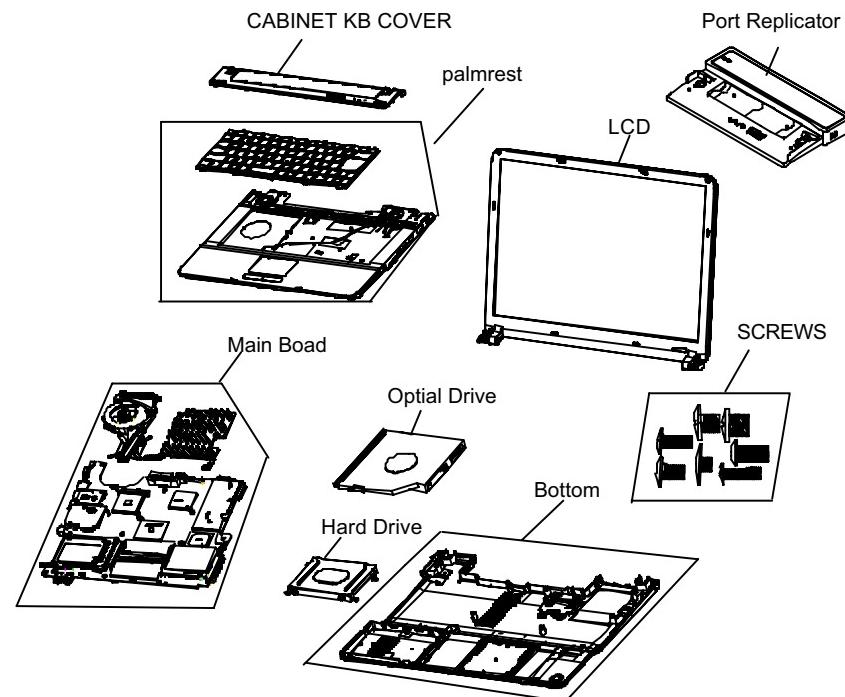
#### NOTE:

The mechanical parts with no reference number in the exploded views are not supplied.

When two or more parts are shown, use the part described first as the main part.

The parts marked "&" are the "Customer Replaceable Parts(CRP)" that can be replaced by Filed Customer Support. Especially the parts with the <&> mark require the special attention to use them. Here fore, check first whether the desired part is one of the targetted parts of the Customer Replaceable Parts(CRP), or the non-targetted parts by referring to the exploded view.

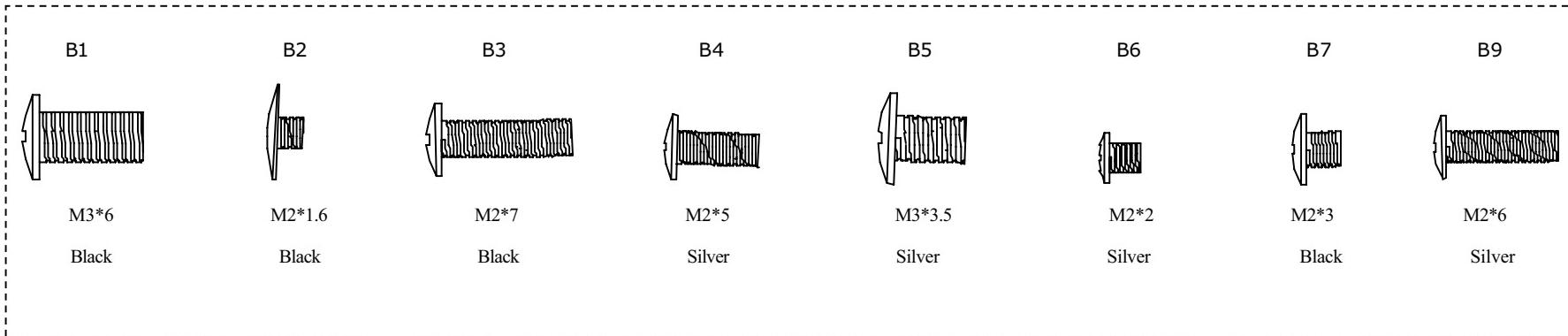
The components identified by mark  or dotted line with mark  are critical for safely.  
Replace only with part number specified.



Screws are supplied with a whole set.

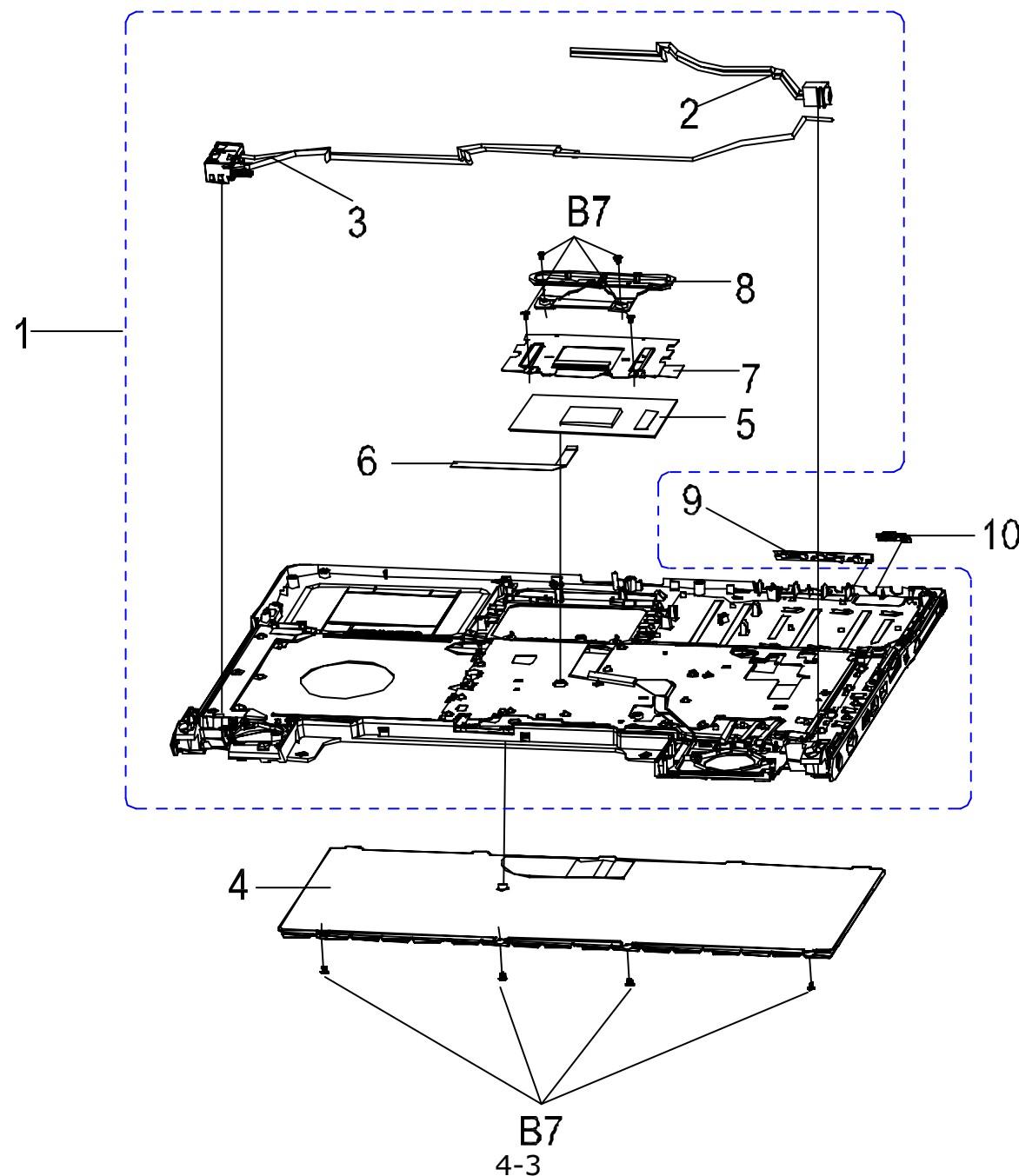
# S-1. SCREWS

B0



Note: Screws are supplied with B0, a whole set.

## P-1. Palmrest

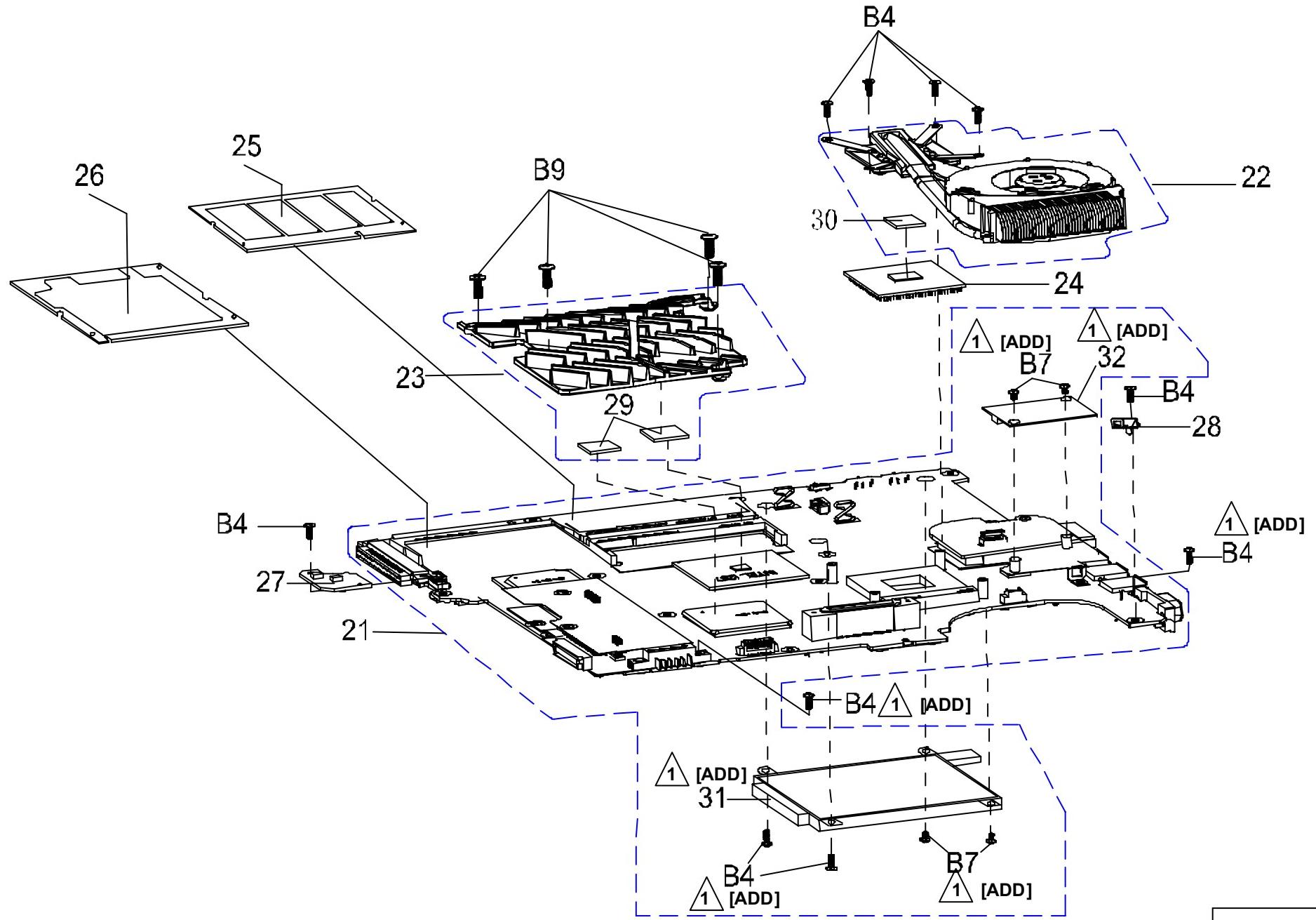


<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>
2	1-963-519-11	MS01 CABLE DC IN
6	1-830-442-11	MS01 TOUCHPAD FFC
7	X-2048-471-1	MS01 SUBASY TOUCHPAD BRACKET
8	2-582-765-01	MS01 TOUCHPAD BUTTON
B7		SCREW, M2 SPECIAL HEAD, EG GRIP

\* :CTO Mode

△ [C]  
△ [C]  
△ [C]  
△ [C]

# M-1. Main Board



## **M-1. Main Board**

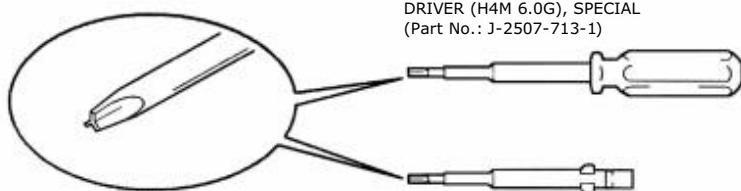
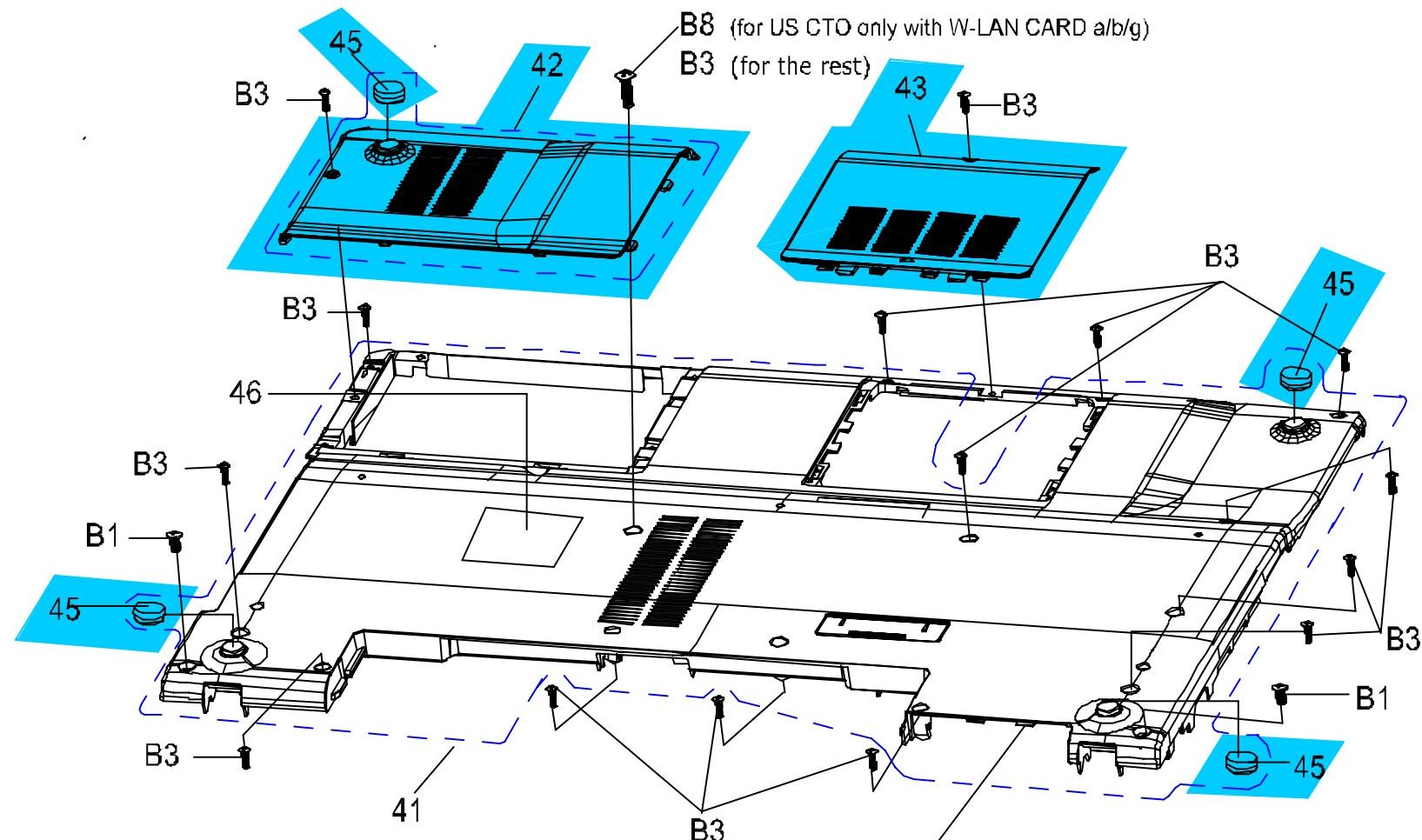
M-1

<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>
22	A-1093-218-A	MS01 ASSY THERMAL
23	A-1093-219-B	MS01 ASSY THERMAL VGA
28	2-546-280-01	MS01 DC IN BRACKET
29	2-592-555-01	MS01 THERMAL SHEET VGA
30	2-592-554-01	MS01 THERMAL SHEET
32	1-417-539-12	MDC MODULE
B4		GRIP, M2
B7		SCREW, M2 SPECIAL HEAD, EG GRIP
B9		SCREW, M2 SPECIAL HEAD, EG GRIP

\* : CTO Mode

2  
[MA]

〔三八〕

**B-1.Bottom**

BIT (H4 5.0G), SPECIAL  
(Part No.: J-2507-712-1)

Note: For B8 removal, a special Tool Shown as right is needed.

## **B-1. Bottom**

B-1

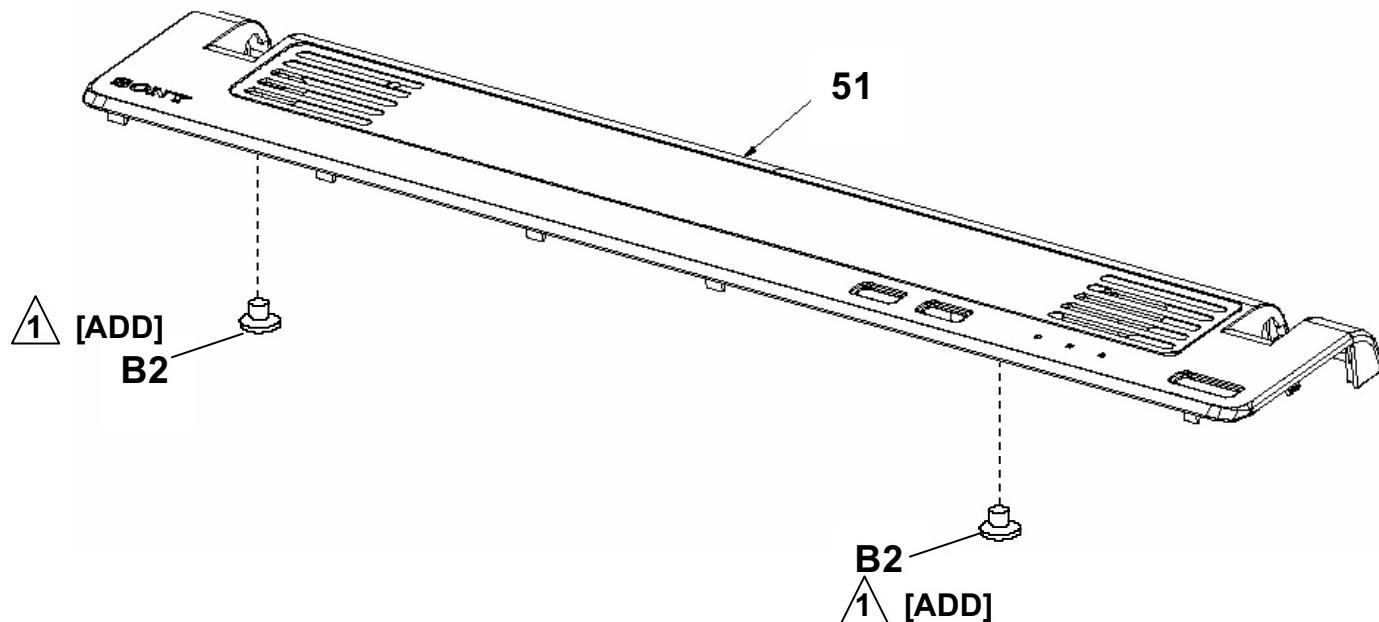
Ref.No.	Part No.	Description
41	X-2050-581-2	MS01 ASSY CABINET BOTTOM
42	X-2050-587-2	& MS01 ASSY HDD DOOR
43	X-2050-582-1	& MS01 ASSY RAM DOOR
44	2-546-276-01	MS01 COVER THERMAL OUTLET
45	2-546-274-02	& MS01 RUBBER FOOT
B1		SCREW M3
B3		SCREW (M2),EXTERIOR VIEW

\* :CTO Mode

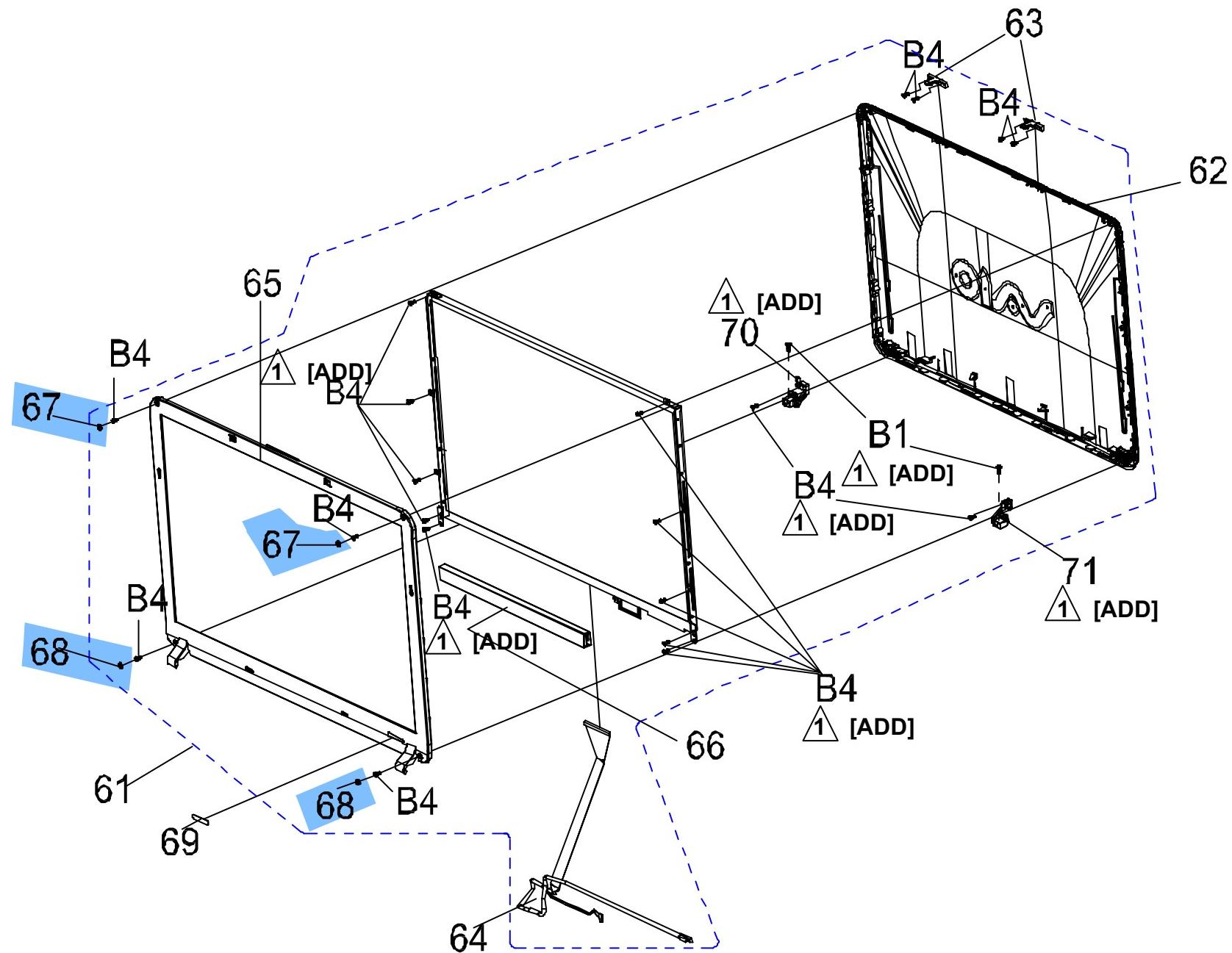
2

1

[MA]

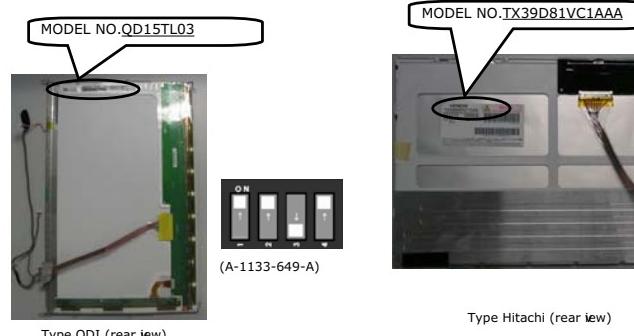


<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>
51	X-2048-486-1	MS01 CABINET KBCOVER
B2		APPEARANCE SCREW M2 M2 1.6mm Black



<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>
63	2-546-200-01	MS01 LCD HOOK
65	X-2050-578-1	MS01 SUBASSY LCD BEZEL
67	2-546-209-01	& MS01 LCD RUBBER ROUND
68	2-587-393-01	& MS01 LCD RUBBER ROUND DOWN
70	2-546-203-01	MS01 HINGE LEFT
71	2-546-204-01	MS01 HINGE RIGHT
B1		SCREW,M3
B4		GRIP,M2 M2 5mm Siler

**How to Use Parts Differently**  
FS25GP has the two different type of LCD (QDI type, and Hitachi type).  
When replacing the LCD, use the QDI type parts for the QDI type LCD, and Hitachi type parts for the Hitachi type LCD.  
Replace the peripheral parts of LCD with the same type in the same way.  
[How to identify the QDI and Hitachi types of parts]



Type Hitachi (rear view)

**NOTE:**

- Q for QDI LCD
  - H for Hitachi LCD

2

2  
[MA]

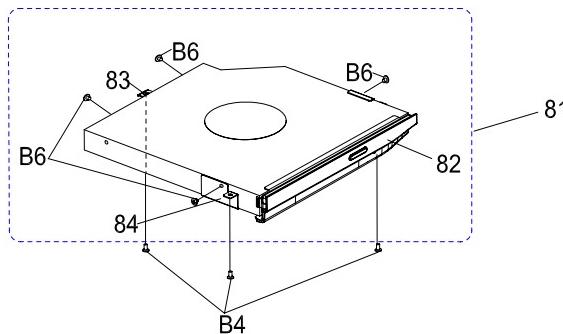
## L-1. LCD

L-1

\* :CTO Model



<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>
83	2-546-291-01	MS01 ODD BRACET BACK
84	2-546-292-01	MS01 ODD BRACET FRONT
B4		GRIP,M2
B6		SCREW,SPECIAL HEAD

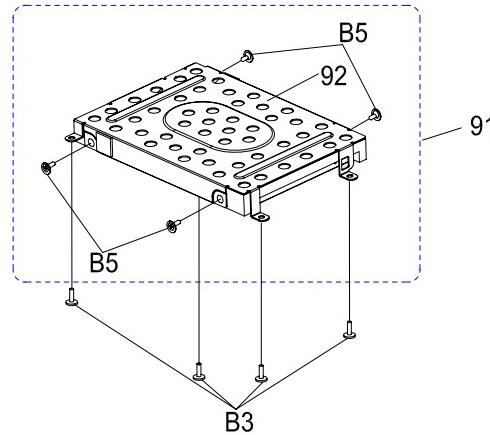


\*:CTO Model

2

2  
[MA]

△ [ADD] 92 A-1092-487-A MS01 SUBASSY HDD BRACKET  
B3 SCREW (M2),EXTERIOR VIEW  
B5 SCREW,SPECIAL HEAD



\*:CTO Mode

2  
MA]

2  
MA]

## A-1. ACCESSORIES

2001  
Memory Card Adapter



2006  
AC Adapter



2004  
Floppy Disk Drive



2007  
Battery Pack



2005  
Power Cord



2030  
Port Replicator



2031  
SPEAKER



2035  
RAY-CATCHER



2032  
Adapter, AC (SPEAKER)



2034  
CORD, POWER (SPEAKER)



2036  
REMOTE COMMANDER



2037  
RFC CORD WITH F TERMINAL



Refer to A-2. Accessories

- 1) The Ref. 2030-2037 are included only in the models supplied with the Port Replicator.

## A-1. ACCESSORIES

A-1

2  
MA]

1

## **A-1. ACCESSORIES**

A-1

\* : CTO Model

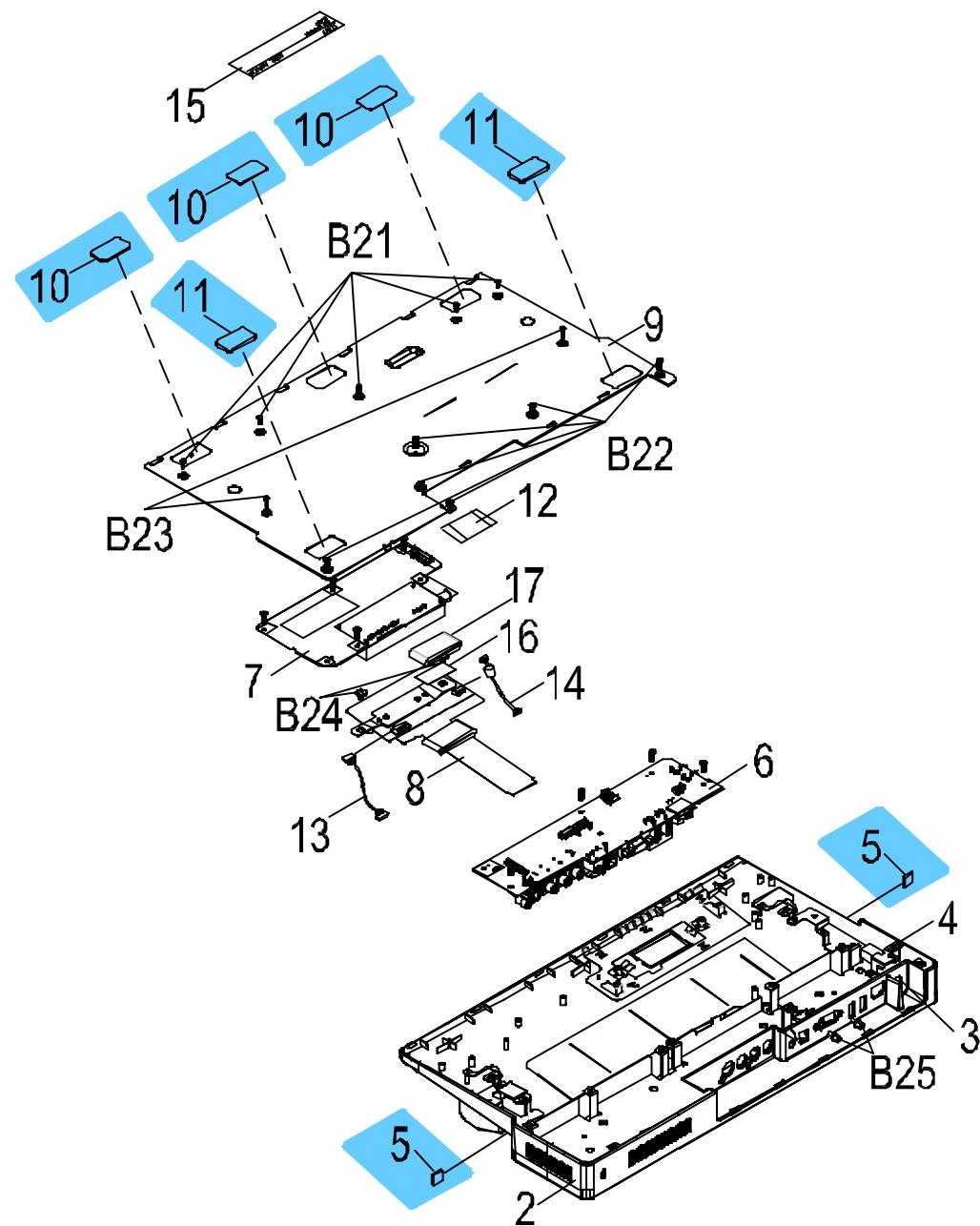
2  
[MA]

[MA]

## A-2. ACCESSORIES

B20		
B21	M3*8	Black
B22	M2*6	Black
B23	M2*8	Black
B24	M3*5	Black
B25	M2*2	Silver

Note: Screw are supplied with B20,a whole set



## **A-2. ACCESSORIES (Port Replicator)**

A-2

\* : CTO Model

[MA] 2

[MA]

# T-1. SUBSTITUTION PARTS LIST

T-1

NOTE:

Please order below substitution parts if the parts with the same Ref. No. in page 4-2 to 4-17 are not available.

\* : CTO Model

Ref.No.	Part No.	Description	J	AM	EU	AO
△ [ADD] △ [ADD]	5	1-797-464-21 TOUCHPAD	FS11B FS11B FS11B FS11B	FS21 FS21PS*		
		1-797-464-11 TOUCHPAD (GRAY)	FS11B FS11B FS11B FS11B	FS21PSY*		
△ [ADD]	25	6-705-096-01 RAM Infineon 512 MB				
		6-707-648-01 RAM Hynix 512 MB				
		6-707-611-01 RAM Hynix 256 MB	• • • •			
		6-707-657-01 RAM Samsung 256 MB	• • •			
		6-707-029-01 RAM Infineon 256 MB	• • •			
△ [ADD]	66	1-478-976-11 MURATA MPV4K004 (single)	• •			
		1-479-136-11 MURATA MPV5K002 (dual)	• •			
		1-479-137-13 NEC-TOKIN LCD INVERTER (dual)	• •			
△ [ADD]	81	A-1127-944-A MS01 ASSY ODD HITACHI DW (W)	• • •			
		A-1127-946-A MS01 ASSY ODD PANA (W-SM+DL)(W)	•			
		A-1127-948-A MS01 ASSY ODD PANA (DVD+DL)(W)	•			
		A-1127-949-A MS01 ASSY ODD PANA (DVD+DL)(B)	• • •			
		A-1127-951-A MS01 ASSY ODD SONY (DVD+DL)(W)	• • •			
		A-1127-952-A MS01 ASSY ODD SONY (DVD+DL)(B)	• • •			
		A-1127-953-A MS01 ASSY ODD Pioneer (DVD+DL)(W)	• • •			
		A-1127-954-A MS01 ASSY ODD Pioneer (DVD+DL)(B)	• • •			
△ [CHG] △ [CHG]	91	A-1127-960-A MS02 ASSY HDD 100GB (FJ)	•	• • •		
		A-1127-961-A MS02 ASSY HDD 100GB (TO)	•	•		
		A-1108-903-A MS01 ASSY HDD 80GB (HI)	•	• • •		
		A-1127-962-A MS02 ASSY HDD 80G (FJ)	•	• • •		
		A-1108-905-A MS01 ASSY HDD 80G (TO)	•	• •		
		A-1108-906-A MS01 ASSY HDD 60GB (HI)	•	•		
		A-1127-963-A MS02 ASSY HDD 60G (FJ)	•	• • •		
		A-1108-908-A MS01 ASSY HDD 60G (TO)	•	•		
		A-1108-909-A MS01 ASSY HDD 40G (TO)	• • •	•		
		A-1127-964-A MS02 ASSY HDD 40GB (FJ)	• • •	•		
△ [CHG] △ [CHG]	2006	1-479-116-12 ADAPTER AC19V11				
		1-479-116-31 ADAPTER AC19V11				
		1-479-114-23 ADAPTER AC19V10	• • • •	•		
		1-479-114-31 ADAPTER AC19V10	• • • •	•		
		1-479-114-41 ADAPTER AC19V10	• • • •	•		

[MA] ▾

[MA] ▾

# DIP Switch

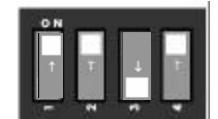
The DIP switch setting is following table.

J	VGN-FS71B	VGN-FS51B	VGN-FS31B	VGN-FS21B	VGN-FS21	VGN-FS91PS*/FS91PSY*/FS91S*		
AM	VGN-FS680	VGN-FS660P	VGN-FS660	VGN-FS640	VGN-FS675P	VGN-FS635B	VGN-FS625B	VGN-FS645P
	VGN-FS630F	VGN-FS615F	VGN-FS640Q	VGN-FS655FP	VGN-FS640FP	VGN-FS610FP	VGN-FS620P	VGN-FS620
EU	VGN-FS295XP	VGN-FS215Z	VGN-FS215M	VGN-FS295VP	VGN-FS215B	VGN-FS215E	VGN-FS215SR	
	VGN-FS215MR	VGN-FS285M	VGN-FS285B	VGN-FS285E	VGN-FS215S	VGN-FS285H		
AO	VGN-FS28C	VGN-FS25C	VGN-FS28GP	VGN-FS28SP	VGN-FS28LP			
	VGN-FS28TP	VGN-FS25GP	VGN-FS25SP	VGN-FS25LP	VGN-FS25TP			

The DIP switch setting is different depending the types of LCD.

Set the DIP switch of CTO model in accordance with the [FOR CTO MODEL].

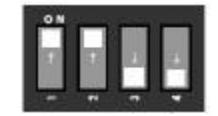
15.4inch WXGA(BR)



15.4inch WXGA(HC)

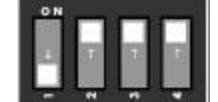


15.4inch WSXGA +(HC)



1 [ADD]

15.4inch WXGA(BR)



A-1108-878-A  
ASSY LCD for  
VGN-FS25GP

(A-1133-649-A)

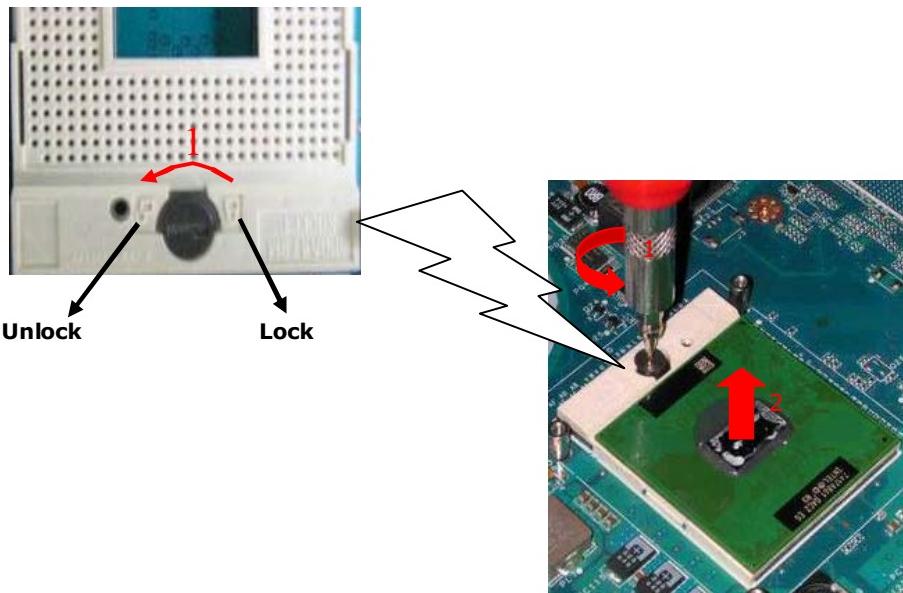
(A-1108-878-A)

# CHAPTER 5. OTHERS

## 5-1. Replacing the CPU

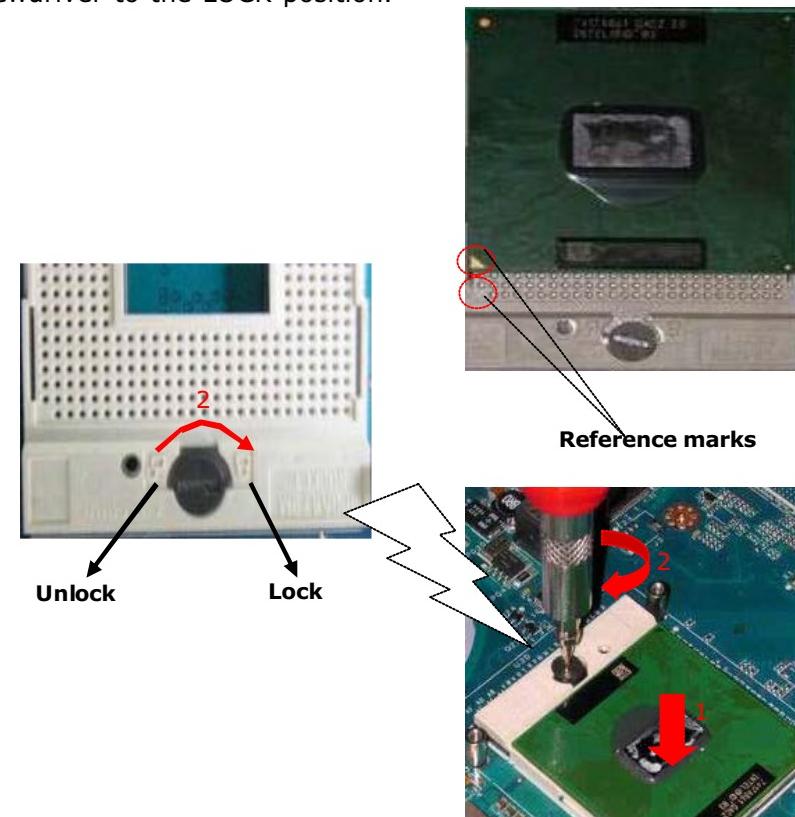
### 1. Removing the CPU

1. Insert a flat-blade screwdriver into the notch as shown illustration and rotate it so that the protrusion comes to the lock release position.
2. Pull the CPU gently upward to lift it out of the CPU socket



### 2. Installing the CPU

1. Align the triangle reference mark of the mark the CPU with that of the CPU socket and insert all the pins of the CPU to the corresponding holes of the CPU socket.
2. Insert the flat head (-) screwdriver into the specified position and rotate the screwdriver to the LOCK position.



## 5-2. Wiring the W-LAN Cable

\* The MS02 PWA ANTENNA is installed also in the models without Wireless LAN.  
Refer to the instruction below to see how to wire the CABLE.



Using KAPTON TAPE to secure the Cable.



VGN-FS71B/FS51B/FS31B/FS21B/FS21/FS91PS/FS91PSY/FS91S (J)  
 VGN-FS680/FS660P/FS660/FS640/FS675P/FS635B/FS625B/FS645P/FS670FG/FS650F/FS630F/FS615F/FS640Q/FS655FP/FS640FP/FS610FP/FS620P/FS620/FS630/FS690P/FS690B/FS690/FS690BH (AM)  
 VGN-FS295XP/FS215Z/FS215M/FS295VP/FS215B/FS215E/FS215SR/ FS215MR/FS285M/FS285B/FS285E/FS215S/FS285H (EU)  
 VGN-FS28C/FS25C/FS28GP/FS28SP/FS28LP/FS28TP/ FS25GP/ FS25SP/ FS25LP/ FS25TP (AO)

### List of VGN-F Series (As of Nov, 2005 )

Service Manual	Model Name							
	Part No.	J	AM		EU		AO	
9-876-414-XX	VGN-FS70B	VGN-FS20	VGN-FS570	VGN-FS520B	VGN-FS195XP	VGN-FS195VP	VGN-FS18CP	VGN-FS18TP
	VGN-FS50B	VGN-FS90PS *	VGN-FS550	VGN-FS500 *	VGN-FS115Z	VGN-FS115B	VGN-FS15C	VGN-FS15GP
	VGN-FS30B	VGN-FS90S *	VGN-FS550P	VGN-FS500P *	VGN-FS115S	VGN-FS115ZR	VGN-FS18GP	VGN-FS15SP
			VGN-FS540P	VGN-FS500B *	VGN-FS115M	VGN-FS115MR	VGN-FS18SP	VGN-FS15LP
			VGN-FS530B	VGN-FS550F	VGN-FS115E		VGN-FS18LP	VGN-FS15TP
9-876-425-XX	VGN-FS71B	VGN-FS21	VGN-FS680	VGN-FS670FG	VGN-FS620P	VGN-FS295XP	VGN-FS215MR	VGN-FS28C VGN-FS28TP
	VGN-FS51B	VGN-FS91PS *	VGN-FS660P	VGN-FS650F	VGN-FS620	VGN-FS215Z	VGN-FS285M	VGN-FS25C VGN-FS25GP
	VGN-FS31B	VGN-FS91PSY *	VGN-FS660	VGN-FS630F	VGN-FS630 	VGN-FS215M	VGN-FS285B	VGN-FS28GP VGN-FS25SP
	VGN-FS21B	VGN-FS91S *	VGN-FS640	VGN-FS615F	VGN-FS690P *	VGN-FS295VP	VGN-FS285E	VGN-FS28SP VGN-FS25LP
			VGN-FS675P	VGN-FS640Q	VGN-FS690B *	VGN-FS215B	VGN-FS215S	VGN-FS28LP VGN-FS25TP
			VGN-FS635B	VGN-FS655FP	VGN-FS690 *	VGN-FS215E	VGN-FS285H	
			VGN-FS625B	VGN-FS640FP	VGN-FS690BH * 	VGN-FS215SR		

\*: CTO Model

: Additional Model

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# Revision History

Suffix	Ver.	Date	Contents	QM No.
-01	Ver.1	2005.06.07	First Edition	
-02	Ver.2	2005.08.24	 <b>Page4-4, Page4-5, Page4-6, Page4-8, Page4-9, Page4-10, Page4-11, Page4-12, Page4-13, Page4-14, Page4-16, Page4-19, Page4-20, Page4-21</b>	N2005_037CK
-03	Ver.3	2005.10.11	 <b>Front Page (Model Line Up), Page1-1, Page1-4, Page4-4, Page4-6, Page4-8, Page4-11, Page4-12, Page4-13, Page4-14, Page4-16, Page4-17, Page4-19, Page4-20, Page4-21, Back Cover</b>	N2005_045AK
-04	Ver.4	2005.11.01	 <b>Front Page, Page4-20</b>	N2005_061CK
<Remarks>				